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Influence of Bromides in Mental Diseases

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Of late a wealth of material has been brought out to show the efficacy of bromides in the treatment of nervous disorders, particularly epilepsy. Bromides are purported to be safe, even in prolonged administration with no complications. In spite of these opinions, conclusions based upon an analysis of 1947 consecutive admissions to the South Carolina State Hospital and a routine bromide analysis of each, accuse bromides of playing an active part in the production of mental disease.

The method of procedure used as a routine in this hospital is that brought out by Wuth in 1927. This method is based on the fact that when serum containing bromides is treated with gold chloride, colors ranging from yellow to orange are obtained, the shading depending on the bromide content. The exact bromide content of the blood serum is determined upon comparing the test sample with color standards representing varying amounts of bromides.

Of the 1947 routine analyses run, 189 or 9.6% were positive in pathological amount; i. e. 75 mgms. or more per 100 c. c. of blood. Of the total admissions, there were 6.6% males positive and 14% females positive, showing that the incidence of bromide intoxication in the female was twice that of the male.

By consulting the clinical records of these cases, it was found that 16 cases or 9% were diagnosed as having some latent mental disorder such as a mild psychoneurosis with bromides serving as the precipitating factor in their admission to the hospital and upon the elimination of the intoxication were paroled as recovered. In addition 7 cases or 4% were diagnosed "Psychosis due to drugs specifying bromides," a total, therefore, of 23 or 13% would not have been committed to a psychopathic institution and would not have received a diagnosis of mental disease had bromides not been too extensively employed.

Of those diagnosed as solely due to drugs, the average blood bromide was 163 mgms., but 75 mgms. was sufficiently high to produce symptoms of intoxication in 2 cases. The highest bromide content in the series was 300 mgms. of which there were four.

As naturally would be supposed. the depressed patients and the psychoneurotics account for a large portion of the pathological positives. There were 71 cases or 38.5% falling into this catagory. The distribution of bromides in the principal psychoses and degree of intoxication of bromides can be found by consulting the enclosed table.

Let us review briefly the oustanding facts of the diagnosis psychosis due to drugs. This diagnosis covers a large field and embraces the opium addicts, with whom all are familiar. A toxic delirium may also be caused by other drugs such as: phenobarbital, somnal, sulfonal, chloral, paraldehyde, cannabis indica, aspirin, salicylic acid, quinine, phenacetin, belladonna, hyocyanus, iodoform, ether, and chloroform. However, these are irrelevant and are to be left out of this discussion. They are only mentioned in passing.

In the cases reviewed the history of drugs was usually clear. There are three methods

of obtaining large quantities of bromides. The first is by the unrestricted purchases of sodium bromide, Peacocks Bromides, and elixir of five bromides. The second is by the unlimited sale of certain patent "pain-killers," such as B. C., Stanback, Goodies, and Bromo-quinine, which contain large amounts of bromides. And the third is,, as is frequently the case, the patient obtains from his physician a prescription which helps him, and without the doctors permission or knowledge repeatedly has it refilled, so that over a period of time he has absorbed large quantities of the drug and his tissues have become saturated with bromides.

The typical course of bromide intoxication begins with restlessness and insomnia with various complaints such as headaches and vague cardiac symptoms. The patient begins taking the drug as a relief for his condition. Usually it is successful for a while, but as the intoxication appears he becomes more restless and emotional. These symptoms become more acute and he is very excitable, prone to fits of temper, often threatening members of his family because of fancied affronts. He is prone to restlessness and walking about in a vague uncertain way. The memory becomes poor, orientation suffers, and judgment is impaired. It is usually at this stage that he is committed to a psychopathic hospital.

Visual and auditory hallucinations develop and occupy a prominent place among his symptoms. He becomes apprehensive and ideas of persecution become evident. Later the patient becomes lethargic and stuporous. There is a dull vacant expression and collapse is imminent, this may be followed by death as occurred in one case under our observation.

The chief symptoms observed in those cases due solely to drugs were in the order of their frequency delusions, excitement, ideas of reference, restlessness, incoherence, confusion, insomnia, and suicidal tendencies. Before admission the majority complained of restlessness, headache, irritability, and depression.

The prognosis of bromide intoxication is unusually good. Upon removal of the drug, the patient begins to improve within a week or ten days. The average hospital stay of these cases is thirty days. The mortality rate is low. Only one case in our series died and this was complicated by heart and kidney disease.

The treatment of bromide intoxication is simple and consists of the administration of large quantities of sodium chloride in doses of 9 to 12 grams daily. This may be given by mouth, hypodermoclysis, or intravenous. By mouth is naturally preferred and may be given in tablet form or in broths or saline drinks.

The rationale of the saline treatment lies in the fact that due to the greater affinity that bromine has over chlorine, the chlorides of the blood stream and tissues are replaced by bromides, thus bringing about an intoxication. By supplying a superabundance of chlorine ions, this is overcome, and the bromine is excreted as sodium bromide via urine, saliva, and gastric juice.

In view of the brevity of the disease; the certainty of its diagnosis by a simple laboratory procedure; and the ease with which it can be treated; it would be well to eliminate the possibility of bromide intoxication before admitting a patient to a psychopathic institution. This disease can readily be treated in a general hospital and thereby avoid the stigma of admission to a psychopathic hospital.

A few cases in abstract form follow to show the symptoms and course of typical cases.

1. B. F. Male, age 60, occupation: chain store manager, admitted Dec. 8, 1938, paroled Jan. 16, 1939. Took prescription for relief of pain, began to lose interest in former pleasures, became drowsy, memory poor, visual hallucinations appeared, was committed at which time very excited with ideas of marital infidelity. Imagined negro in bed with him and his wife. Physical examination entirely negative except blood pressure 160/80. Blood bromide 100 mgms. Began to improve 10 days after admission. Diagnosis: Psychosis due to drugs.

2. T. G. Male, age 58, occupation: policeman, admitted Sept. 15, 1938, paroled Oct. 8, 1938. Became irritable with headaches, took B. C. and Stanback to excess. Improved for a few weeks then became upset, was unable to sleep, wandered about confusedly. Was highly emotional, with visual and auditory hallucinations. Physical examination: essentially negative ex-

cept blood pressure 165/100 reduced to 140/100 upon cessation of excitement. Blood Bromine 250 mgms. Began to improve one week after admission. Diagnosis: Psychosis due to drugs.

3. Mrs. D. S., female, age 40, occupation: house wife. Admitted July 1, 1938, paroled Aug. 6, 1938. After a period of nervousness, patient began taking bromides in the form of a prescription. She began to wander about in a confused manner, hallucinations both of visual and auditory type, thought she was a negro, became highly excited, noisy, and talkative. Physical examination negative. Blood pressure 130/80. Blood bromide 225 mgms. After one week began to improve. Diagnosis: Psychosis due to drugs.

4. Mrs. B. W., female age 57, admitted Aug. 19, 1938, paroled Aug. 25, 1938. This patient's condition began with restlessness, and insomnia. She took Stanback and B. C. and a prescription. Became confused, and was subject to delusions and hallucinations. On admission was drowsy, and stuporous, speech thick, almost inarticulate with no coherence. She was excited, disoriented, unable to eat, and required tube feedings. Physically, she appeared to be in a drugged state with tremors about the lips and cheek, breathing was stetorous, pulse rapid and weak, temperature normal, heart enlarged, blood pressure 180/100. Chest clear save for a few rales in the bases, reflexes sluggish. The laboratory showed albumin and casts in urine. Blood Urea 82.34 mgms., Blood Bromide 300 mgms. Others irrelevant. In spite of our efforts she grew progressively weaker. At the insistence of her family, she was transferred to another hospital, where she died an hour and a half later. Diagnosis: Without Psychosis, Cardio-Renal-Vascular Disease, Delirium and Excessive use of Bromides.

5. Miss S. Y., female, age 46, admitted July 5, 1938; paroled July 31, 1938. This patient had for sometime been a chronic complaining type with hysterical episodes. She had experienced four major abdominal operations. She began to take a prescription and B. C. in addition. She later became talkative, lost control of herself, threatened suicide, and continuously demanded drugs; would take double doses frequently. Physical examination was essentially negative. Blood pressure 140/90. Blood bromide 175 mgms. Began to improve after one week. Diagnosis: Psychoneurosis, Hysterical type; associated drugs: bromides.

CONCLUSIONS

The conclusions are based on the fact that 75 mgms. or more per 100 c. c. of blood was considered pathological. Statistical evidence has been presented to show that bromide intoxication is more frequent in women, in depressed cases, and psychoneurotics. There was only one case in the entire series which had a Bromide Dermatitis, and only one died.

Of the 189 cases found to be pathologically positive there were 7 cases or 4% whose mental disorder was due solely to bromides.

A mental diagnosis has been presented which can be easily stamped out by the cooperation of the practising physician. Because the duration of the symptoms of intoxication is only one week to ten days after treatment has begun, it is possible to treat these cases at home. If the physician will but have blood bromides done on patients who might be suffering from Bromide Intoxication, how quickly can he cure his patient and save both the patient and family heartache!

While it is true that there are only a few of these cases, 0.4% of the entire 1947 which were due to this drug alone, these few are inexcusable because they can be so easily prevented. It is therefore, the duty of preventative medicine to educate the public concerning the dangers of the permiscuous use of bromides.

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DISTRIBUTION OF POSITIVE WITH REFERENCE TO THE PRINCIPAL PSYCHOSES.

	Milligrams per 100 cc. of Blood										
Diagnosis	75	100	125	150	175	200	225	250	275	300	Total
Manic Depressive: Depressed	13	4	3	2		1					23
Manic	7	3	1							2	13
Mixed	2										2
Dementia Praecox: Simple	1										1
Catatonic	3	5		1		1	1				11
Hebephrenic	1	5	3		1						10
Paranoid											
Psychosis Epilepsy: Deterioration	2	1	2			1		1			7
Clouded & Confused			1								1
Psychoneurosis: Hysteria	5	3	2		3						13
Neurasthenia	2	5	1	2	2						12
Psychasthenia	1										1
Without Psychosis: Alcoholism	4	3	3		2	1					13
Mental Deficiency	1				1						2
Epilepsy	1										1
Drugs		2	1	1	1						5
Involutional Melancholia	2	2		1	2						7
Paranoia & Paranoid Condition	2	2									4
Senile Psychosis: Simple	1	1			1						3
Presbyophrenic	1										1
Delirious & Confused		1	1				1				3
Paranoid	1										1
Alcoholic Psychosis: Delirium Tremens	3										3
Chronic Deterioration	1										1
Psychosis with Mental Deficiency	2	2		1							5
Psychosis with Cerebral Arteriosclerosis	3	2	1	1	1						8
Psychosis with Amaurotic Family Idiocy	1										1
Psychosis with Huntington's Chorea					1						1
Psychosis with Psychopathic Personality		1									1
Psychosis with other Somatic Diseases—C. R. V.	4	2		1	1					1	9
Psychosis with Pellagra	3		1								4
General Paralysis of Insane	4	3	2								9
Traumatic Psychosis	1		1								2
Undiagnosed Psychosis	2		1					1			4
Psychosis due to Drugs	2	1			1		1	1		1	7
TOTAL	76	48	24	10	17	4	3	3		4	189

Official Syrups As Vehicles

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Flavoring agents are important to the physician because the patient commonly holds the prescriber responsible for the taste of his medicine. Even disagreeable medication can be made acceptable by judicious selection of vehicles and a pleasing taste, odor and appearance in his prescription will help to gain the patient's cooperation.

Masking unpleasant medicaments lies in the province of the pharmacist and the results of some endeavors along this line are set forth below and will be demonstrated at the annual meeting of the South Carolina Medical Association in Charleston. This article has arbitrarily been restricted to certain members of only one class of pharmaceutical preparation, namely syrups, because water soluble agents are best disguised by aqueous rather than alcoholic vehicles and many of the most commonly prescribed medicaments are water soluble.

Syrups are relatively permanent and stable preparations only as long as they are saturated solutions. Therefore it is necessary to avoid too great dilution in the prescription and to use the minimal quantity of water for dissolving the medicinal agent. The pharmacist can readily determine this quantity. It is best to prescribe the medication in a concentrated syrup and have the patient make the dilution according to directions when he takes a dose. Although a particular syrup may be perfectly adequate for disguising some drug in a 2 grain per dram dose it might not be equally efficient in masking larger amounts, therefore consideration must be given the quantity of drug in each dose. In some instances this may necessitate increasing the volume of syrup prescribed, with a corresponding increase to two teaspoonfuls or to a tablespoonful dose rather than a teaspoonful dose.

The patient's preference in flavors can often be followed if several syrups are about equally efficacious in disguising a specific unpleasant taste. But it must be borne in mind that an admirable vehicle for bitter substances is probably mediocre or poor for salty tastes and the question of incompatibility also arises to complicate the choice. The problem therefore is a specific one: What vehicle shall be used for covering this or that bitter, salty, sour, acrid or astringent taste?

Bitter substances of basic nature, e. g. alkaloidal salts, can be prescribed with Aromatic Syrup of Eriodictyon, N. F. In this alkaline vehicle the electronegative resinoid which is colloidally dispersed adsorbs basic compounds. Codeine in a child's dose will be adequately disguised, as will 1/15 to 1/30 grain of strychnine per dram dose. The practical limit for quinine sulfate however is only 1/2 grain per dram dose, but quinine ethyl carbonate (euquinine) in 5 grain per dram dosage gives only a slight immediate bitterness and no after bitterness at all. Excess alkali, acids and acid salts, oxidizing and reducing agents, and iron salts are incompatible with this syrup. Alkaloids of moderate bitterness, e. g. atropine and ephedrine, can also be prescribed in Syrup of Cherry, N. F. or Syrup of Raspberry, N. F. These vehicles which contain cyanidin derivatives are decolorized by alkaline substances (potassium citrate, sodium phosphate, etc.) and have the incompatibilities of benzoates due to the benzoic acid used as a preservative.

Syrup of Prepared Cacao, N. F. is highly effective for suspending insoluble substances and can be used for quinine bisulfate in 1/2 grain per dram dosage. This syrup ferments readily and should never be diluted in prescription formulae.

Soluble barbiturates and bitter compounds of acidic nature will not be adequately disguised by the above mentioned syrups.

In the group of salty medicaments the halides and salicylates are among those most frequently prescribed. Syrup of Cinnamon, N. F. is almost a "specific" vehicle for salicylates, doses

of 5 grains per dram being very effectively masked. The darkening of salicylate solutions is also covered by the cudbear in this syrup. Acids should be avoided since even small quantities of acid bring out an acrid taste in salicylate solutions; the addition of some bicarbonate in the prescription will overcome this difficulty. The taste of iron and ammonium citrate is also well covered by Syrup of Cinnamon which is a good vehicle for the halides too.

Syrup of Orange, U. S. P., Syrup of Citric Acid, U. S. P., Compound Syrup of Sarsaparilla, U. S. P., Syrup of Raspberry, N. F., and Syrup of Licorice, N. F., are all useful preparations for administering bromides, chlorides, iodides, and metallic salts. Halides will be carried in doses up to 15 grains per dram. The acidic character of the fruit flavored syrups makes them incompatible with alkali carbonates. Syrup of Licorice is a good vehicle for halide salts because of its double sweetness, first the immediate sweetness of sugar and then the lingering sweetness of glycyrrhizin. Acids precipitate glycyrrhizin and will destroy much of the sweetness of this syrup; also alkalies destroy its colloidal character and strongly ionized iron compounds precipitate it. Compound Syrup of Sarsaparilla effectively disguises the taste of mercuric salts and is likewise good for masking salty tastes.

Ethyl carbamate (urethane) has a saline taste which Syrup of Cherry will disguise in a 5 grain per dram concentration.

Saline drugs in syrupy vehicles are preferably not diluted when a dose is taken because the addition of water brings out the unpleasant taste; the greater the dilution the more marked it becomes.

Acrid tasting compounds such as urea can be acceptably presented in Syrup of Acacia, N. F., and Syrup of Althea, N. F. These colloidal syrups are efficient vehicles because they prevent the medication from acting on the taste buds. The tincture of vanilla in Syrup of Acacia increases its palatability but the sodium benzoate added as a preservative increases its incompatibilities. The taste of ammonium mandelate is less objectionable when it is administered (about 45 grains per tablespoonful) in Syrup of Althea than it is in other vehicles. Syrup of Cherry also masks urea in doses of 15 grains per dram.

For sour tasting medicaments the most eligible vehicles are the fruit syrups whose acid characters and buffering capacities endow them with the requisite properties. Syrup of Cherry and Syrup of Raspberry are especially good for dilute hydrochloric acid, hydriodic acid or lactic acid.

The astringent taste of iron salts, e. g. tincture of ferric chloride (5 minims per dram), is well disguised by Syrup of Cherry. But slightly ionized iron compounds such as iron and ammonium citrate may also be administered in Syrup of Licorice.

Syrup of Orange Flowers, U. S. P., Syrup of Tolu, U. S. P., Syrup of Wild Cherry, U. S. P., Compound Syrup of Asarum, N. F., Syrup of Ginger, N. F., and Syrup of Thyme, N. F., are other official syrups which, although generally less valuable as vehicles, nevertheless can be used in some instances to add variety to prescription flavors.

The Diagnostic Significance of Upper Abdominal Pain

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I have chosen as the subject for this paper, "The Diagnostic Significance of Upper Abdominal Pain," my purpose being, first, to recognize the multiplicity of conditions causing pain in this region, and, second, to refresh our minds on the differential diagnostic points of the affections most commonly encountered, —time permitting only slight consideration of those less frequently seen.

Pain originating in the upper abdomen is usually due to functional or pathological disturbances of the viscera in this region, but frequently it is a referred manifestation of diseased structures elsewhere. It is not always constant in its position of maximum intensity, and is variable in its radiation. Too great reliance, therefore, cannot be placed upon pain when arriving at a diagnosis. A close history of the case, and careful physical examination, with laboratory and X-ray findings, is imperative if grave errors are to be avoided.

Epigastric pain is generally an expression of some gastric or hepatic disorder. Of the gastric derangements, the following are most commonly encountered:

(1) Hyperacidity—There is burning pain in the epigastrium in the latter stages of digestion, relieved temporarily by the taking of food, alkalies, and by vomiting. It occurs in well nourished individuals of neurotic temperament, is characterized by recurring attacks, acid eruptions, no loss of appetite, vomiting, and constipation. Gastric analysis reveals excess of H Cl.

(2) Achylia Gastrica—On the other hand, pain in this condition may be slight, or severe, while food is in the stomach. There is complete absence of H Cl and ferments, and very low organic acidity shown in the gastric analysis. The appetite is variable, and there may be wasting, anemia and vomiting—also, diarrhea relieved by H Cl.

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(3) Acute Gastritis—There is diffuse epigastric discomfort and tenderness, rather than actual pain. There is an acute onset with anorexia, headache, and vomiting (first food, then bile) and there may be fever lasting one to three days.

(4) Chronic Gastritis is characterized more by feelings of distress or oppression after eating. There is pain on pressure over the stomach, which is usually diffuse and not severe. There is likewise nausea and vomiting, particularly in the mornings, flatulence, constipation and acid eruptions. Gastric analysis reveals copious mucous in some cases, and often diminished H Cl.

(5) Toxic Gastritis is characterized by intense pain in the mouth, throat and stomach, and the abdomen is tender, distended and painful to pressure. There is a history of taking poison, salivation, difficulty in swallowing, vomiting of bloody fluid, and collapse. There may be albumen or blood in the urine, and corrosion of the mucous membrane of the mouth and throat. Clinical examination of the stomach contents is sometimes necessary to determine the ingested poison.

(6) Pylorospasm is characterized by cramp-like pains in the lower epigastrium occurring two to three hours after eating—being irregular and short at first, but gradually becoming more frequent and of longer duration. There may be vomiting, and at times a tumor may be palpated in marked grades. Antispasmodics and X-ray will readily reveal the diagnosis.

(7) Gastric ulcer is characterized by a boring pain, just below the ensiform, soon after eating. It is circumscribed, of variable intensity, persists while food is in the stomach, and is relieved by gastric evacuation. It may radiate straight through to the back, or spread around the left side with pain in the region of the tenth dorsal vertebra. In chronic ulcer the pain may be lower and more diffuse, and less

severe. Pain is rare at night or upon an empty stomach, and presents irregular relief by food and soda. There is a sharply defined area of tenderness in the epigastrium, and there is a tendency towards intermittent recurring attacks, although this is not as pronounced as in duodenal ulcers. There is also vomiting, hematemesis, anemia, some wasting, good appetite (though afraid to eat) and dyspepsia. Gastric analysis usually reveals a hyperacidity and X-ray shows a filling defect of the stomach wall.

(8) Duodenal ulcer on the contrary presents pain late in digestion, two to three hours after eating and at night, being relieved by food and soda, but not by vomiting. It is located in the right of the epigastrium, and radiates to the umbillicus and to the right side, but never to the sub-scapular region. The chief signs of this ulcer are its long periods of remission, occult blood in the stools, dyspepsia, hyperacidity, and hypermotility of the stomach, possible rigidity and tenderness to the right of the right rectus. X-ray exhibits a filling defect in the duodenal cap.

(9) Carcinoma of the stomach is evidenced by pain in the early stages. It is variable in intensity, dull and dragging in character, and may be referred to the shoulder and back. It is worse after food, aggravated by pressure and only partly relieved by vomiting. It is less intermittent than in gastric ulcer, and rarely paroxysmal. Other noteworthy features are: Its incidence in late middle life, dyspepsia, anorexia, nausea and vomiting (sometimes hematemesis) emaciation, anemia, and occasionally a palpable mass with enlarged glands in the neck and left axilla. Gastric analysis shows an absence of free H Cl, a low total acidity, Boas-Oppler bacillae, bacteria, blood and organic acids. An irregular filling defect is shown by X-ray.

(10) Perforated ulcer (gastric or duodenal). The pain has been described as sudden, violent, cutting, bursting, burning, stabbing and unyielding. Its location is epigastric, and it spreads over the entire abdomen as general peritonitis develops, being accompanied by boardlike rigidity and epigastric tenderness. Other diagnostic features are: The suddenness of the onset, history of previous stomach trouble, shock, strong pulse but increasing steadily in rate, sub-normal temperature at first, but later rising, latent period of pain for a few hours followed by symptoms and signs of general peritonitis.

Epigastric pain usually occurs in derangements of the biliary passages, and the liver. Cholelithiasis is the most frequent offender in the former, while such disorders of the liver as malaria, syphilis, abscess, infectious jaundice, precirrhotic hyperemia, and dyspeptic congestion due to excessive intake of alcohol and meats, are to be remembered.

Epigastralgia is also experienced in some cases of cardiac insufficiency. The pain, which is due to passive congestion in the liver and tenderness on palpation and percussion, is a very constant sign.

More exceptional than the above mentioned causes of epigastric pain are those encountered in disease of some adjoining organ, such as pancreatitis, coronary occlusion and abdominal aneurysm; or of disease of some remote structure such as appendicitis.

Epigastric pain of pancreatic origin occurs in both chronic and acute conditions affecting this organ. Those giving rise to chronic pain are: (1) Chronic pancreatitis, (2) pancreatic cysts, (3) tumors of the pancreas, of which carcinoma is the most frequent, and (4) pancreatic calculi which is comparatively rare.

As the common bile duct passes through the pancreas, it is often difficult to ascertain in which structure the pathology may lie in a given case. In some instances, pathology may be co-existent. We may have a scirrhous tumor (benign or malignant) compressing the bile duct and giving symptoms of obstructed jaundice—and we may also have a similar growth following an interstitial pancreatitis secondary to calculus in the bile duct. The maximum pain in these conditions is usually observed at the so called pancreatic point, which is four or five centimeters to the right of and above the umbilicus. But in the pancreatico-biliary syndrome, it is not easy to determine whether the pain is due to pancreatitis, or to stones in the common duct.

In uncomplicated chronic pancreatitis, the symptomatology is notoriously indefinite. Some cases may present severe pain, nausea, vomit-

ing and jaundice. Differing from gall stone colic, however, the pain is situated in the middle of the epigastrium and radiates to the left, rather than to the right, with tenderness in the same region.

One of the most characteristic features of acute hemmhoragic pancreatitis is the suddenness of its onset with violent colicky pains in the epigastrium and upper abdomen. There is early, copious and bile stained vomiting, prostration and shock. General abdominal hyperesthesia exists, and constipation is absolute. The temperature is subnormal and a leukocytosis is present. A correct diagnosis, rarely made, is based upon the history of pancreatic-biliary trouble, the above described syndrome, and upon inspection of the lesions found after laparotomy which should be done as early as possible.

Appendicitis, acute or chronic, is frequently attended with epigastric pain, nausea and vomiting. Laboratory and clinical examinations, however, will usually indicate the right, lower quadrant as the offender.

Among the possible causes of epigastric pain, mention should also be made of the gastric crises in tabesdorsalis, lead poisoning, pyloric adhesions, intestinal obstruction, and angina pectoris.

In gastralgia of tabes, it has been said that "Whoever has seen and followed one such case will always have the condition in mind, while whoever has not, will never think of it." The onset is usually sudden, with severe pain simulating that of gastric ulcer or hepatic colic and radiating to the back and behind the sternum—the so-called girdle pains. Morphine brings only partial relief, the pain lasting from a few hours to a few days and subsiding as quickly as it began. It is also attended with vomiting, often uncontrollable, pallor, sweating, cold extremities and a small pulse. The diagnosis can be made from a number of characteristic evidences, viz: A history of syphilitic symptoms, i. e., lightning pains, Argyll-Robertson pupil, loss of knee jerks, impaired equilibrium, ataxia, etc. Examination of the blood and spinal fluid render the diagnosis certain.

The pain of coronary occlusion is sometimes epigastric, but a study of its attendant manifestations and its response to the nitrites will make the diagnosis obvious.

Let us next consider pain in the left hypochondrium. Nine-tenths of all pains in this region coincidently with pain in the lower thoracic region on the left side are of gastric origin and are symptomatic of gaseous distension of the fundus of the stomach, i. e., flatulence, meteorism, aerophagia, etc. This distension depends upon such conditions as gastric neurosis, hyperacidity, chronic intestinal disease, cholelithiasis, chronic appendicitis, etc. In addition to pain, these patients generally complain of heart disturbance, such as palpitation, dyspnoea, missed beats, etc., especially while lying on the left side. They actually consult the physician on account of heart disturbance more frequently than they do pertaining to hypochondriac discomfort, justifying the old clinical aphorism: "When a patient complains of his heart, there are nine chances out of ten of his being a neurotic dyspeptic."

Next to the gastric disturbances in order of frequency occur the surgical affections of the left kidney, such as nephrolithiasis, pyo and hydronephrosis, perinephritic abscesses, tuberculosis of the kidney or neoplasm. The site of pain and tenderness in these conditions are more marked in the lumbar region, radiating along the ureter to the bladder and left testicle. Bi-manual examination may reveal enlargement of the kidney, and urinary examination clarifies the diagnosis. Leukocytosis and fever are to be expected in these renal infections.

There are too many conditions causing enlargement of the spleen to enumerate—all, however, are accompanied by a varying degree of painful tension in the left hypochondrium. Having noted the splenomegaly, it is then necessary to ascertain the cause.

The splenic flexure of the colon forming an extremely acute angle, is occasionally the source of pain from gaseous distension and obstruction by fecal masses. It is usually a dull pressure pain and may disappear after a large enema. X-ray also will confirm the diagnosis. This flexure is one of the commonest sites of intestinal tumors. A neoplasm here may occasion no local pain,, but deep palpation may yield sufficient information which, when correlated with a symptom group of obstruc-

tion, the appearance of blood in the stools, and fluroscopy, may lead to a diagnosis of tumor.

There are a host of other causes of pain in the left hypochondrium, due to affections of neighboring and distant organs, such as angina pectoris, pleurisy, pneumonia, subdiaphragmatic abscess, intercostal neuralgia, tabes, appendicitis, cholelithiasis, pancreatic calculi, etc.

Disorders of the liver and other biliary structures constitute the chief pain producing agencies in the right hypochondrium, consequently, four-fifths of all pain disturbances in this region are referable to these structures.

Acute paroxysmal colicky pains at this site are especially characteristic of cholelithiasis, simple or with complications. However, the disorder may present symptoms of ordinary dyspeptic disturbances, or of a pyloric-symptom group due to adhesions between the gall bladder and duodenum, with pain in the epigastrium.

Attacks of biliary colic occur intermittently, with symptoms of cholecystitis in the interim. The agonizing pain, developing abruptly, is located in the right hypochondrium and radiates to the shoulder, lower thoracic region or epigastrium, and lasting from three to twelve hours. The diagnosis is based upon the typical attack, the history of dyspepsia and of other attacks with intervening discomfort or pain from cholecystitis, slight chills with elevation of temperature, collapse, tenderness over the gall bladder, possibly jaundice, X-ray and gall bladder visualization. Jaundice, usually transient and slight, unless the common duct is obstructed, occurs in about one-fourth of all cases of cholelithiasis. In the majority of gall stone patients, palpation will induce a characteristic pain at the fundus of the gall bladder for a prolonged period of time during the interval between attacks.

The pain, history and symptoms of acute cholecystitis resemble most closely those of cholelithiasis, and we are forced to rely upon the X-ray for a differential diagnosis. The gall bladder is usually palpable in acute and chronic cholecystitis, and there is usually no jaundice. The attacks of pain in chronic cholecystitis, while occurring frequently, are usually milder, unless due to gall stones. In the intervals, nagging pain, with moderate tenderness of the gall bladder are complained of.

Immediately behind the liver are situated the hepatic flexure of the colon and the first flexure of the duodenum, to which structures the gall bladder frequently becomes adherent in the event of pericholecystitis, and giving a variety of symptoms. A high precholic or retrocholic appendicitis will give pain in the right hypochondrium closely resembling acute cholecystitis, and from which it is sometimes hard to differentiate. Also, a high appendicitis may be the starting point of sub-phrenic abscess. In this condition there may be severe pain in the epigastrium and right hypochrondrium when the abscess is to the right of the suspensory ligament of the liver. There may also be symptoms of perforated ulcer or appendicitis followed by evidences of suppuration, embarrassed respiration, tenderness and rigidity, and thoracic signs such as dullness, diminished sounds or tympany. A positive diagnosis rests upon the X-ray and exploratory punctures.

The symptomatology of duodenal ulcer has already been considered. When the pain is in the hypochondrium, the chief condition to be differentiated from is cholelithiasis. However, when the typical ulcer history is obtained, and a lower position of tenderness on palpation elicited between the right hypochondrium and umbilicus, the diagnosis is relatively easy. Definitely confirmatory is the advent of hematemesis.

Many disorders of the right kidney may cause pain in the right hypochondrium, especial mention being made of nephrolithiasis and of kidney suppurations. The paroxymal attacks of renal colic, and hepatic colic, may not be differentiated, due to the impracticability of examination during the seizure, but later, gall stones is readily differentiated by the fact that in kidney colic the pain or tenderness is most marked in the lumbar region by the radiation of pain along the ureters and to the testicles, by urinary findings with possibly the presence of gravel in the urine.

Similar considerations likewise apply to pyonephrosis and peri-nephritic abscess, but in the latter instance, if the abscess points

below the liver, as it seldom does, the diagnosis in quite difficult. In this type abscess, the chief conditions to be differentiated are pericholicystitis, hepatic abscess of appendicular origin and sub-phrenic abscess.

Pain of hepatic origin is generally of a dull type and is sometimes only elicited by palpation. Active or passive congestion of the liver is the commonest of the disorders of this organ, inducing sensitiveness. It precedes, accompanies, or heralds the majority of cases of hepatic cirrhosis and is one of the most constant symptoms of cardiac weakness or failure. We should also bear in mind the possibility of gumma of the liver, hepatic abscess and cancer. In these cases it is not the character of the pain but the symptoms, signs and course upon which a diagnosis is based.

Pain in the right hypochondrium is frequently complained of in right-sided pneumonia, involving the middle and lower lobe, and in pleurisy.

In diaphragmatic pleurisy, the diagnosis is often difficult. The pain is low in the zone of the diaphragm, and may be intensified by pressure at the point of insertion of the diaphragm at the tenth rib—sometimes being referred to the neck and shoulders. There is hyperesthesia of the skin, and deep pressure in the gall bladder and appendix region is well borne.

Although there are many others, the following comparatively rare conditions causing pain in the right hypochondrium should be referred to: (1) Herpes Zoster which is easily recognized on inspection, (2) a localization of the girdle pain of tabes, which has already been discussed, (3) hydatid cyst of the liver. While usually painless, it may cause pain, suggesting gall stones, but diagnosis is most difficult especially where the clinical signs of cyst are wanting, (4) the pain of abscess of the liver (tropical or pyemic) is variable and is usually referred to the back and shoulder; or there is a dull aching sensation in the right hypochondrium. When turned on the left side, the patient complains of a heavy, dragging sensation. Diagnosis is based upon the history or presence of amebiasis, or severe constitutional symptoms of sepsis (pyemic abscess) enlarged tender liver, slight jaundice, fever, rigors, sweats, leukocytosis, and aspiration of pus, (5) carcinoma of the gall bladder occurs in late middle life, five times oftener in women than in men. Discomfort is complained of in the right hypochondrium, and there may be severe paroxysmal pain and superficial tenderness. Pain on pressure is present between attacks. There is usually a progressive jaundice, palpable gall bladder, cachexia, and enlarged liver.

In closing, we must admit that the diagnosis of the causes of upper abdominal pain is one of the most unsatisfactory, as well as one of the most important, in medicine. The difficulties encountered are due to the variety of organs manifesting pain in this region; and contributing to the confusion is the tendency of local lesions to produce generalized pain, and of generalized lesions to produce localized pains.

Our diagnostic armamentarium for specific investigation is unfortunately limited, for aside from the information furnished by the laboratory and X-ray, our knowledge depends principally upon palpation, and a careful history of the case. Early diagnosis is imperative in the acute surgical conditions causing pain in the upper abdomen. "Prompt surgical interference after early recognition of the seriousness of these acute conditions is," according to Deaver, "of far greater importance than a correct pre-operative diagnosis." The greatest danger in these cases is the "missing of the most auspicious moment for intervention."

President's Address

DOUGLAS JENNINGS, M. D., BENNETTSVILLE, S. C.

The survey of health conditions and medical care made by those appointed by the President of the United States would lead the public to believe that about one-third of all the people do not receive adequate medical care. A prominent internist connected with a large southern university and clinic not so long ago made the statement that forty per cent of the people of the South are inadequately cared for medically. On the other hand, a more recent survey conducted by the American Medical Association and participated in by those who are most concerned — the American medical profession—concludes that "there is no important section of the population of this country, with the exception of isolated localities, that now fails to receive the medical care that it needs and desires."

If medical care and the distribution of medical service in South Carolina is inadequate, and no doubt our conditions are comparable to those of the economically and agriculturally poor South, we, the organized medical profession of this State should take notice of it and should exert ourselves to remedy the conditions. We do have an opportunity of improving both the type of medical care and the quantity of medical service that South Carolinians are to receive, and to take advantage of this opportunity is our very best weapon in the fight against State or governmental control of medicine. The answer to charges of inadequacy of medical care lies in the willingness and the ambition of the medical profession as now constituted to learn more about medicine, to teach better medicine, to practice better medicine, and to acquaint the public with existing medical services and facilities. Any lack of good medical care and any poor conditions of public health existing today in South Carolina are due to three factors, namely, a few incompetent physicians, the indolence of a certain class of people, and to poverty and ignorance of a large element of the populace. A program to correct these three factors would do much to regain whatever public confidence we might have lost and put a stop to the charges of selfishness and greed which have been brought against the medical profession.

To realize the quality or the type of medical service received by quite a large group of people requires only that one get away from the well-organized clinics and out-patient services in the larger cities and towns and visit the rural districts and small towns. Here one finds that a relatively large proportion of the people are dependent for medical service upon a type of doctor who is, thank God, rapidly disappearing. I refer to that doctor of medicine, for the degree has been conferred upon him, whose only diagnostic study of a patient consists of an inquiry as to where the discomfort is located, possibly a look at the tongue, maybe a temperature reading; and whose therapeutic ability is manifested by handing out some medicine, often concocted and dispensed by himself, with assurance to the patient that he will soon be "all right." This type of doctor is rarely identified with organized medicine. He seldom, if ever, attends medical meetings. He never reads scientific publications. He is complacent and satisfied to call this practising medicine. But, it must be remembered that his type renders all of the medical service that many people receive, and that he is often the reason for criticism of medical service and the medical profession.

Our obligation to the public demands that we do something about this type of so-called physician. He has been graduated and licensed to practice. With better teaching facilities of which we now can boast and the method of selection of medical students now in effect, the incompetent and unfit physician will ultimately be eliminated. We must have some means of disposing of those already with us. Our hope of improving this type lies in placing within his reach society meetings, refresher

Read before the South Carolina Medical Association, Charleston, S. C., May 1, 1940.

courses, post-graduate instruction, and scientific publications. Some of our larger societies are making progress and showing the way. We must make a serious effort to carry on into the smaller counties and districts.

If the type of doctor of which I am speaking cannot be interested in making himself competent by association, attendance at meetings, and the pursuit of medical knowledge, his status as a physician can be exposed and his activities can be curtailed by ethical publicity on the part of the organized profession. It is for this purpose, and this purpose alone, that I advocate the publication of the names of all members of the medical society from time to time, and particularly appending these names to all articles published by organized medicine for the general information of the public.

In the past few years there has sprung up one of the chief contributing factors to the dark picture of public health and well being. I refer to the indolence of a certain class of people, which has to a large extent been fostered by the government's attitude toward relief, unemployment, and medical care. There has appeared a type of citizen, if he can be dubbed a citizen, to whom life is too severe and difficult. To him, there should be a way to obtain the good things of life without sacrifice and self-denial. He likes to believe, when he is told and he is too often told, that good medical care ought to be provided him by the government and at no cost to him. He is a very willing tool in the hands of the professional politician who continually tells him what he likes to believe—that he can work less and make more, save less and have more, go into debt and not have to pay. His type contributes heavily to the inadequacy of medical care. He is not medically indigent but simply indolent, and the medical profession is no more obligated to care for him than the grocer is to feed him. How best to deal with this type of man is not only a problem of the medical profession but of welfare departments, social agencies, and those government activities which have instilled into him mental comfort and indisposition to labor.

If organized medicine's recommendation that local need and local agencies determine the participation of government in providing medical care, the indolent and undeserving person will be rudely awakened to the fact that he will have to provide for himself. Only cessation of benefits and re-education can teach his obligation to his family, himself, and his doctor. Opportunity to improve this man as a citizen lies in cooperation with other agencies to re-educate him.

The platform of the American Medical Association insists that local determination of medical needs be instituted. Such provisions swings the leadership in any proposed change in the system of medical practice from the politician to the medical profession, where it belongs. Without a voice in the determination of who is indigent and who is indolent, the profession should not cooperate in any plan of socialization of medicine. We have recently said in a nation-wide referendum that 85% of the nation's doctors refuse to cooperate with federalized medicine. It is our duty, as members of organized medicine, to actively support the platform of the American Medical Association.

By far the greatest contributing factors to the inadequacy of medical care are poverty and ignorance. It cannot be said that the medical profession of the South has failed to give medical services to the needy; on the other hand, on the basis of the actual record, we have provided medical service to all who called for it. However, there is, in South Carolina as elsewhere a large element of the population who do not know of available medical and hospital services. H. L. Mencken says editorially in the Baltimore Sun, "What we need is not more doctors and more hospitals but sense enough to come in to those that already exist." Any plan of the government or other agency directed toward improving medical service must include provision for locating the ignorant and poverty-stricken, acquainting them with what medical and hospital services are available, and providing them with transportation to those services. The recommendation of organized medicine that local need be shown before public funds are made available, if incorporated in legislation, will guarantee surveys which wil locate the ignorant and poor who are in want of medical service; but it is

highly improbable that the indigent will receive any better medical care just because government pays for it unless it is carried to them.

At the beginning of my administration as your leader last May I immediately formulated and promulgated a definite program for this Association in an effort to show to the public of this State and the nation that we are interested in improving both the quality and the quantity of medical care in South Carolina. This program was based on three main points, namely, (1) Improvement of medical education through active support of the State-owned medical school; (2) Dissemination of medical knowledge and information to the physicians of smaller towns and rural sections through medical societies, refresher courses, postgraduate instruction, etc., and (3) Acquainting the public, through a plan of ethical publicity, with the methods, aims, progress and accomplishments of organized medicine.

The success of this campaign has so far not been phenomenal, but there have been developments and activities which justify continuance of the program. Such a far-reaching, ambitious undertaking, proposedly permanent, on the part of a medical group whose motives are entirely unselfish, aroused favorable comment from the press and the public. To put over such a program requires much time, perseverence, and earnestness of purpose.

For several years a veritable barrage of propaganda to discredit organized medicine has been laid down and is being laid down as a base to pave the way for the enactment of drastic and revolutionary health legislation. It is my sincere hope that this Association, which honored me and which I have been privileged to serve during a most crucial period, will answer this propaganda with determination to take the leadership in improving medical service and public health, and will say to the public with all emphasis possible that we, the organized medical profession, are capable of guiding and directing the health of the people of South Carolina.

CONTENTS

ORIGINAL ARTICLES:

Influence of Bromides in Mental Diseases. By John T. Cuttino, M. D., Columbia, S. C. ---- 135

Official Syrups as Vehicles. By J. Hampton Hock, D. Sc., Charleston, S. C. ---- 139

The Diagnostic Significance of Upper Abdominal Pain. By J. W. Ratliffe, M. D., Anderson, S. C. ---- 141

President's Address. By Douglas Jennings, M. D., Bennettsville, S. C. ---- 146

EDITORIAL:

Charleston Meeting Surpasses Previous Records ---- 149

Surgery ---- 150

Eye, Ear, Nose and Throat ---- 151

Pathological Conference, Medical College of the State of South Carolina ---- 152

Book Reviews ---- 155

Dr. George Madison Truluck—President Elect S. C. Medical Association ---- 157

Society Reports ---- 158

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MAY, 1940

CHARLESTON MEETING SURPASSES PREVIOUS RECORDS

As was anticipated the Ninety Second annual meeting of the South Carolina Medical Association held in Charleston, April 30th, May 1st and 2nd, exceeded all previous meetings held there from the standpoint of attendance and scientific interest. The attendance was as follows: four hundred doctors, ninety-six members of the woman's auxiliary and thirty exhibitors. The Secretary's report listed eight hundred and five paid up members of the Association at the close of the fiscal year, December 31, 1939 and showed a marked increase in membership during the early months of 1940. Several County Medical Societies in the coastal section were reported as having reorganized and entered into a renewed interest in State Association affairs.

The various committee reports disclosed considerable activity along many lines in the interest of the public health. The new Public Relations Committee is off to a good start. The intensified campaign for the study and control of cancer is now actively functioning from many angles. The State Board of Health report indicated that every county in the State had at last been included in the preventive medicine program of the Board. The Committee on Maternal and Child Welfare continues to be encouraged by a falling maternal morbidity and infant death rate. The greatly enlarged tuberculosis plans of the State Board of Health cooperating with many other agencies rendered enthusiastic reports of success in reducing the morbidity and death rate from tuberculosis.

The scientific exhibits were very creditable. The high spot of the entire meeting was the dedication of the new Medical College Building and the announcement by the Dean of a one hundred and twenty-five thousand dollar gift by a friend who did not wish to be known in connection with the gift to complete the plan as originally designed. The round table conferences at the College and Roper Hospital including the special feature of fracture demonstrations were all splendidly presented.

Retiring President Dr. Douglas Jennings of Bennettsville is to be congratulated on the achievements of his office during the past year. He brought to the Association several important constructive suggestions which have been acted upon and are now in force. The new President, Dr. W. L. Pressly of Due West, takes over the leadership of the Association after a long training on the Council and one year of close personal study of the

needs of the Association. He is now in position to build on the solid foundations of his predecessors and carry the Association still farther in its upward trend so evident in recent years. The President Elect, Dr. G. M. Truluck of Orangeburg, unanimously elected to this distinguished office has also had a number of years of experience as a member of the Council and participated largely in the spectacular advancement of scientific and organized medicine in the section of the State in which he lives.

The Medical Society of South Carolina (Charleston County), and its various committees, gave of their best efforts to make of the State Association meeting this year a well rounded success without a hitch anywhere and to them the officers and members of the Association extend grateful thanks.

SURGERY

WM. H. PRIOLEAU, M.D., F.A.C.S., CHARLESTON, S. C.

BURNS IN CHILDREN

The subject of burns in children is treated fully in a recent article by Drs. H. M. Blackfield and Leon Goldman (J. A. M. A. 112:-2235, June 3, '39). Space does not permit of consideration of the whole subject in this column, so only selected points can be presented.

Shock is generally present in extensive burns in children. It is combatted by the usual means of heat, sedatives, fluids administered parenterally, and transfusions of blood. Local treatment is not instituted until this condition is corrected.

The toxic condition occurring early is due to blood concentration, increase in the nonprotein nitrogen and a decrease in the chlorides of the circulating blood. Infection is also an important factor and may manifest itself after 24 to 36 hours. It has not been established that the toxicity is due to absorption of split protein products from the burned area.

Upon this conception the authors base their treatment. The blood concentration phase is combatted by the local treatment, and systematically by the administration of appropriate fluids and blood transfusions.

For local treatment the tannic acid, silver nitrate, gentian violet methods are combined. The patient is immersed in a bath of tannic acid aqueous solution, which is changed several times. The blisters are broken and a thorough cleansing is done. The procedure takes about one hour. Silver nitrate in 10% solution is then applied to the burned area so as to effect quickly the formation of a coagulum. The patient is then placed under a cradle kept at 85% to 90% upon sterile sheets. For the purpose of further controlling infection the burned surface is treated with a 10% aqueous solution of gentian violet several times a day for the first few days. Special attention is given to fissures and breaks in the coagulum. In burns encircling the fingers, gentian violet alone or saline compresses are used, due to the danger of the tannic acid coagulum constricting the circulation.

Eschar remaining after 3 weeks is assumed to cover areas in which spontaneous epithelialization will not occur. Such eschar is removed and the area is prepared for skin grafting. The importance of early skin grafting is stressed for the purpose of preventing infection, undue scarring, and contracture formation. The authors have had good results from the split graft of Blair and Brown, particularly in sites where contractures may occur.

Debridement, and especially wide excision of a burned area, under an anesthetic, the authors consider unnecessary and often shock producing. They condemn the use of unguents in the treatment of severe burns. They consider the use of tannic acid jelly unsatisfactory due to the slowness of its action.

The treatment as outlined is directed toward combatting shock; preventing and correcting fluid loss with resultant blood concentration and metabolic disturbances; preventing infection of the burned areas; and favoring early epithelialization, spontaneous and by grafting so as to prevent systemic infection, undue scarring and contractures.

EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M.D., F.A.C.S., CHARLESTON, S. C.

THE RELATION OF CHEST CONDITIONS TO SINUS DISEASES — THE OTOLARYNGOLOGIST'S POINT OF VIEW — DR. AUSIN P. SMITH, THE LARYNGOSCOPE, NOVEMBER, 1939, P. 1134

"The importance of the co-existence of infection in the paranasal sinuses and the lower respiratory tract has been demonstrated both clinically and experimentally with sufficient frequency that it is now accepted as a common clinical fact." In 1916, "working with supposedly tuberculous soldiers, they (Rist, Sergent and Saylor) reported that in one-third of the cases the diagnosis of pulmonary tuberculosis was incorrect." The history as to sinus disease was often negative; and that in all cases of chronic or persistent cough a careful examination of the sinuses is most important

There are four possible routes for infection to get from the sinuses to the bronchial and pulmonary tissues.

"1. The trachea by inhalation or direct continuity. This is the easiest and most direct, and seems to me, in the light of clinical experience, quite adequate without the other three.

2. The combined path of the lymph nodes, tracheal lymph duct and blood vessels through the right side of the heart and the pulmonary bed.

3. The purely hematogenous path.

4. Lymph spaces and channels in the visceral cervical space, the dorsal wall of the esophagus, the prevertebral fascia and related structures, which communicate with the anterior part of the mediastinum."

The frequency of association of sinus in bronchial infection, has been found to be high, —varying from 66.8% to 82.4% and when more than one lobe shows bronchiectasis there is a greater involvement than the left, as in the case with foreign bodies.

(But the sinuses also become infected from pus coughed up from a lung. Hodge states that the soft palate prevents the coughed up sputum from getting into the nasopharynx, but I have seen too many cases of otitis media develop from coughing in babies to credit his observations in their entirety. Editor).

From the treatment point of view, the active sinus focus must be checked before one can expect improvement in the lung condition.

The bacteriology of this condition is also interesting. Though the streptococcus seems to predominate, it has been found that a culture from the sinus at operation frequently shows a bacteria different from that found in the nose. "This indicates why an autogenous vaccine may often be useless when it is made from cultures obtained from the sinus washings or purulent exudate found in the nose."

Chronic sinusitis and bronchiectasis have been found in very young children. One third of the cases occurred before the age of 10 years. The upper respiratory etiology was more frequent between 10 and 20 years. "In contrast to this, the pneumonia group had its highest incidence in the first decade of life."

"Clerf states that the greatest field of usefulness in the conservative treatment of bronchiectasis lies in treating the young and also that the most important factor is the prompt recognition and appropriate treatment of the frequently associated nasal sinus infection."

"The possibility of a co-existing sinusitis should be suspected in every child who has frequent attacks of bronchitis and pneumonia."

A persistent unproductive cough is very suggestive of bronchiectasis with a scant tenacious secretion. These cases, if given a careful examination of the upper respiratory tract, show a paranasal sinusitis which has been unsuspected. "This furnishes the clue to the cause and the essential part of the treatment."

"The part that allergy may play in sensitizing the whole tract to infection now appears as a new and interesting angle." The patient should be examined for an allergic cause.

Though asthma and bronchiectasis are not comparable, the swelling of the bronchial mucosa and the production of a tenacious secretion furnish a suitable soil for the implantation of bacteria in the pus draining from the sinuses above.

As a matter of clinical fact the allergic state may involve the upper and the lower respiratory tract. One should consider the respiratory tract as a whole.

"Another interesting point of view, that at least illustrates that the problem is anything but a simple one, is that brought out by Sippe. He suggested that hypoglycemia and ketosis may play a part in chronic disease of the antrum and bronchi in both children and adults." These were much benefitted by the administration of dextrose. In allergic cases—and who knows always when they are allergic—the mucosal swelling comes and goes. In some cases that have been followed for years, there may be only a few times when the X-ray will catch the case when it has swollen antral mucosa.

"I know of no field in medicine which offers such great opportunity for a fine piece of constructive work by the method of co-operative group practice than does this field of respiratory infection."

Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

Case of Dr. F. E. Kredel
ABSTRACT NO. 413 (56082)
March 15, 1940

History: The patient, a negro man of 30 years of age, was brought to the hospital in a comatose state. The only history obtainable was from the patient's wife. She stated that about 19 days before the patient had been struck on the head three times. She did not know with what he had been struck, site of injury or whether consciousness had been lost at that time. He was given emergency treatment shortly after incident. Since that time, the patient had been up and around the house and had felt fairly well but had not gone to work. On the day prior to admission, he walked up to the wife and attempted to speak but was unable to do so. She noted that his mouth twitched and that he was unable to use his left arm. Shortly afterwards the patient lost consciousness.

No details of the past medical history obtainable. T-102² P-52 R-14.

Physical: Examination revealed a comatose well developed and well nourished negro man of the apparent stated age. Breathing was stertorous. The skin was hot and dry and the mucous membranes were pale. There was a small, apparently healing, scalp wound anterior to and just above the left ear. The right pupil was pin-point, the left was dilated; there was no reaction to light. The fundi were not remarkable. No noteworthy findings for the nose or ears. The lymph nodes were palpable generally. The chest was clear to P and A and the mediastinum was not widened to percussion. The heart was normal in size to percussion, rate 52, rhythm regular, apical systolic shock but no murmurs were heard. B. P. 130/65. The abdomen was flat and soft. No organs or masses were palpable. There was spasticity of both upper extremities and to a lesser degree of the lower extremities, apparently more marked on the right. The deep reflexes tended to be hyperactive on the right. No pathological reflexes were elicited.

Laboratory:

Urinalysis
How Vd.
React. Acid
Sp. Gr. 1.024
Alb. 2 plus
Sugar 0
Acetone 0
Casts 0
Pus 50/HPF

Blood
Hb- 11 gms.
WBC 18,500
Polys. 88%
Lymphs 11%
Baso. 1%

Blood Chemistry
Urea N 24 mgs.%

Sp. Fluid
Appear. Clear
Kolmer Neg.
Cells 73
Polys 33%
Lymphs 67%
Globulin 2 plus
Sugar 1 plus

Progress: Lumbar puncture was performed soon after admission. The fluid, which was slightly cloudy at first and later clear, was obtained under 700 mm. (water) pressure. The pressure was reduced to 100-125 mm. by slow removal of about 25 cc. of fluid. The pulse rate began to mount shortly after admission. The temperature began to rise on the second day, reaching 106°. The systolic pressure receded as the pulse rate mounted. The patient expired about 48 hours after admission without regaining consciousness.

Dr. Kredel (conducting): Mr. Wells, what is your diagnosis and what details given in the protocol support that diagnosis?

Student Wells: We have a 30 year old negro man admitted in coma who had apparently been in perfectly good health until three weeks previously when he received a blow on the head. Following this there was a rather long latent period during which time the patient showed no ill-effects of his injury. This is true, if the history, as given by his wife, is reliable. The onset of the condition which lead to his admission to the hospital was rather sudden in character. That is, the patient developed aphasia and left-sided paralysis rather suddenly. The pertinent findings upon admission were the apparently well healed scalp wound above the left ear, the comotose state, stertorous breathing, dilated left pupil, the spasticity of the upper extremities and to a lesser extent of the lower extremities, more marked on the right, and hyperactive deep reflexes. In addition, the patient was febrile with a temperature of 102° and the pulse was slow with a blood pressure of 130/65.

The history of trauma to the head presents several possibilities. Hemorrhage into the brain substance proper of minute order might have been caused by the blow to the head and could have increased in magnitude gradually during the latent interval. This could account for an area of softening that might furnish the background for this clinical picture. Pachymeningitis hemorrhagica interna, though not always associated with trauma and sudden onset, must be considered in the differential diagnosis. Hemorrhage into the intracranial tumor is another possibility, though there was no choking of the discs or other findings that one would have expected if such had been the case. Another possibility is brain abscess. This could be explained on the basis that an area of softening following hemorrhage had become secondarily infected. The infection might have come from some distant focus, possibly prostate, since there was pus in the urine. It is difficult to evaluate the degree of paralysis in this case because of the spasticity present. I favor cerebral hemorrhage as the most likely diagnosis.

Dr. Kredel (conducting): Can you localize the lesion in the brain from the findings?

Student Wells: Assuming that the patient was right handed, the lesion would have to have been on the left side to explain the aphasia. It would have to involve the motor area of the cerebral cortex in order to explain the paralysis.

Dr. Kredel (conducting): Were there any other helpful signs present?

Student Wells: The inequality of the pupils. The left pupil was dilated. This, I believe, would point further to a left sided lesion.

Dr. Kredel (conducting): How reliable is this sign?

Student Wells: I don't know for sure, but believe it would occur in well over 50% of acute intracranial injuries.

Dr. Kredel (conducting): Mr. Wylie, what is your opinion of this case?

Student Wylie: I agree with Mr. Wells as to the localization of the lesion. However, Ie believe that abscess must be considered as a good possibility. In the case of abscess, there might have been terminal rupture into the lateral ventricle.

Dr. Kredel (conducting): Do you think that there was rupture of an abscess into the ventricle in this instance?

Student Wylie: It might have been a terminal event. Had there been hemorrhage with leakage into the ventricle, blood would have showed up in the spinal fluid unless there was complete blockage and this seems highly improbable.

Dr. Kredel (conducting): Do the laboratory findings help you any in making a diagnosis in this case?

Student Wylie: No, not a great deal. The leukocytosis is common to too many conditions. The pus cells in the urine might indicate any chronic inflammatory process of the lower urinary tract. The albuminuria might occur in any febrile condition. However, the negative finding of clear spinal fluid indicates that no pus or blood was making its way into the subarachnoid space or ventricular system, that is, unless such were a terminal event occuring after the last spinal tap. The absence of pus also rules out meningitis. By the same token, the absence of blood rules out a subarachnoid hemorrhage on the basis of a ruptured cerebral aneurysm that might have been suspected in this age group. Had there been subdural hemorrhage, one might have expected sufficient softening after this period of time to have produced a xanthochromic fluid, which was not found in this case.

Dr. Kredel (conducting): What do you make of the spinal fluid cell count?

Student Wylie: It is elevated but not markedly so. I believe that a cell count of 73 cells is consistent with hemorrhage into the brain substance.

Dr. Kredel (conducting): Is there anything that you would like to know about the case that is not available in the protocol?

Student Wylie: Yes, there are a number of things that might be helpful. With what type of instrument was the patient struck? Was it blunt or sharp? Was there any evidence of skull fracture at the time the patient was first treated? How long was the pa-

tient unconscious following the injury? Subjective eye signs following the injury, visual fields, history as to vertigo, nausea and vomiting would all be helpful.

Dr. Kredel (conducting): Unfortunately these details are not available in this case. Miss Sanders, what is your diagnosis?

Student Sanders: I would first like to know just how the head wound looked upon admission and if there was any evidence of skull fracture.

Dr. Kredel (conducting): (Reading from chart): "Old lacerated wound of left parietal region just above and anterior to the left ear. A fresh abrasion over the left occipital region."

Student Sanders: Was an X-ray examination made of the skull?

Dr. Kredel (conducting): (Reading from chart): "Because of the patient's condition it was impossible to obtain the usual radiographs of the skull. There is no definite X-ray evidence of fracture of this skull."

Student Sanders: Brain abscess is my first impression. I do not see why an infection about the scalp wound could not have spread by way of the emissary or diploic veins through the skull to involve the brain substance proper.

Dr. Kredel (conducting): What do you think of the dilated pupil on the left? Do you think that this finding is significant?

Student Sanders: I don't know.

Dr. Kredel (conducting): If the left pupil were dilated, how sure could you be that the lesion was on the left? In what percentage of cases do you believe that this would be a reliable finding in cases of acute brain injury?

Student Sanders: I do not know the expected percentage in which the dilated pupil as an isolated finding would be significant in localizing the intracranial lesion. In this case, I believe that the constricting fibers were either directly involved in the lesion or pressed upon by the reaction surrounding the lesion.

Dr. Kredel (conducting): Mr. Rubin, do you think that this man had an embolus?

Student Rubin: The long period of latency is the only thing in favor of embolism. All in all, I would not expect embolus to give this picture.

Dr. Kredel (conducting): Is there any discussion from the staff?

Dr. Robert Wilson, Jr.: In wagering an opinion about this case, the time interval is difficult to evaluate, but I would suspect a brain abscess. We had a similar case this past summer in which the spinal fluid showed 96 cells and the case proved to be a brain abscess following a recent head injury. This probably resulted from an antecedent infected hematoma.

Dr. Chamberlain: The lack of adequate history in this case and the short time for observation makes it a rather difficult diagnostic problem. The patient's inability to speak makes one think of a lesion involving Brocca's area on the left. However, the loss of function in the left arm is rather baffling; it makes one wonder if the patient were left handed. The spasticity of the extremities focuses attention on the brain stem. This recalls a case I saw that had been on psychiatry for months which later proved to be a brain abscess. One must also consider thrombosis of a dural sinus.

Dr. Kalayjian: This was another accident case. As so often happens we are requested to make our X-ray examination at the bedside. This commonly results in a film of poor diagnostic quality. It makes the establishment or ruling out of fracture at the base of the skull or temporal bone a very difficult and hazardous thing.

Dr. Kredel (conducting): When I was first called to see this patient the history of the 19 day interval between the time of the head injury and the time of hospitalization had not been obtained. This information was obtained later from the wife of the patient. To me, the most striking thing was the sudden onset, the clear spinal fluid under increased pressure and the dilated pupil on the left. I believe that the latter is the most reliable index as to the side of brain injury in acute cases. On the assumption that hemorrhage was the likely lesion in this case, a small trephine opening was made in the left temporal region. Careful search failed to reveal any accessible hemorrhage and the wound was closed because of the poor condition of the patient.

Dr. Wilson, Sr.: How do you explain the spasticity of the extremities?

Dr. Kredel (conducting): Generalized edema of the brain with resultant increased intracranial pressure.

Dr. Wilson, Jr.: How do you explain the pinpoint pupil on the right?

Dr. Kredel (conducting): I don't. I'll have to leave that question for Dr. Chamberlain. (laughter).

Dr. Lynch: (Demonstrating brain): There is an abscess of the left temporal lobe. At autopsy, a fracture of the left temporal bone anterior to and just above the ear was demonstrated. As was later brought out at a coroner's inquest, this man had been hit with a board having a nail in it. The nail penetrated the bone, pushed small bits of bone ahead of it, punctured the dura and brain substance. The abscess cavity is just below the site of exploration and contains creamy pus. It was apparently well localized. The cerebral convolutions, as you can see, are flattened more on the left than on the right. I cannot explain or understand why the left arm was paralyzed as indicated in the history. I'll have to ask Dr. Lassek to help us out on that point.

Dr. Lassek: I am afraid that I'll have to pass on that question. With the left sided lesion so clearly demonstrated in the specimen it would certainly seem that the paralysis should have been right-sided.

Student: If I may make a guess on that point of the history, I would think it possible that the wife

of this patient when questioned referred to the left side of her husband who was facing her which was, in reality, his right. The whole problem being one of false identity of sides in giving the information to the interne.

Dr. Lynch: That sounds as good to me as any other explanation and seems entirely likely.

BOOK REVIEWS

CANCER IN CHILDHOOD AND A DISCUSSION OF CERTAIN BENIGN TUMORS: By Harold W. Dargeon, M. D., F. A. A. P., Attending Pediatrician, Memorial Hospital for Cancer and Allied Diseases, New York; Associate Pediatrician, St. Luke's Hospital, New York. St. Louis, The C. V. Mosby Company, 1940. Price $3.00.

This deserves to be designated as a rare monograph. In the great campaign for the control of cancer the significant stress has been placed on the disease as it develops in middle age and beyond with little said about malignancy in the early years. The author well says that cancer knows no age limits and that it may be present at birth. The book is really a symposium coming from the members of the various departments of the world famous Memorial Hospital for Cancer and Allied Diseases in New York. The author gives due credit to Dr. Hayes Martin of this hospital for much encouragement in writing the book. It will be recalled that Dr. Martin was a guest speaker at the Post Graduate Clinical Assembly in Anderson last September. This contribution is indeed a masterpiece even if the volume has only one hundred and fourteen pages. The illustrations are splendid.

ELMER AND ROSE PHYSICAL DIAGNOSIS: Revised by Harry Walker, M. D., F. A. C. P., Associate Professor of Medicine, Medical College of Virginia, Richmond, Va. With 295 illustrations. Eighth Edition. The C. V. Mosby Company, St. Louis, Mo. 1940. Price $8.75.

Physical diagnosis is both a fascinating science and an intriguing art. The physician will never be able to abandon entirely the signs unearthed by sight, palpation, anscultation, etc., even with the on-coming of marvelous instruments of precision available now on every hand. This book has run through seven editions and the eighth is off the press so it evidently is a popular text book both in the medical school and with the practitioner of medicine. The illustrations are excellent to the number of two hundred and ninety-five. It is evident from reading this book that to really be up to date in the examination of a patient one must keep up with the trends in physical diagnosis.

THE MANAGEMENT OF OBSTETRIC DIFFICULTIES: By Paul Titus, M. D., Obstetrician and Gynecologist to the St. Margaret Memorial Hospital, Pittsburgh. With 368 illustrations and 5 color plates. Second Edition. The C. V. Mosby Company, St. Louis, Mo. 1940. Price $10.00.

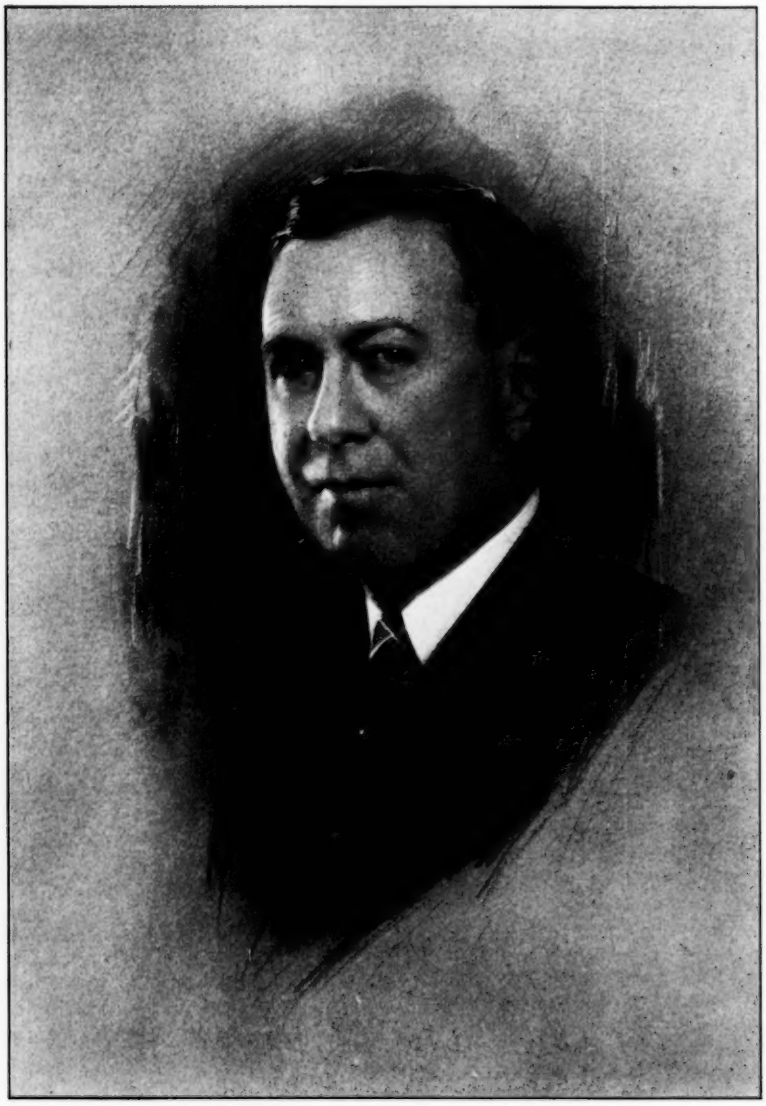
Obstetric surgery cannot be learned from a book any more than general surgery can be learned that way for books and journals plus a never ending experience are all necessary in the making of a good physician and surgeon. The tremendous advances in obstetrics have been clearly given by this author in a very complete text and unusually fine practical illustrations. The chapter on Obstetric and Analgesia and Anesthesia is very interesting for the author has mentioned practically all the known safe methods and amongst the many valuable additions to our knowledge for the relief of pain in labor the author recommends that "ether should be an indispensable article on the list of supplies packed in an obstetric bag and routinely to deliver women without at least a final anesthesia with ether is barbarously unnecessary."

INJECTION TREATMENT OF HERNIA, HYDROCELE, GANGLION, HEMORRHOIDS PROSTATE GLAND, ANGIOMA, VARICOCELE, VARICOSE VEINS, BURSAE, AND JOINTS: By Penn Riddle, B. S., M. D., F. A. C. S., Assistant Professor of Clinical and Operative Surgery, Baylor University, College of Medicine. With 153 Illustrations. W. B. Saunders Company.

It is amazing to note the extraordinary advances in the injection treatment of many diseased conditions in this country in the last decade. To be successful one must give careful consideration to the type of patient and the particular indications for the injection plan of cure. An accurate knowledge of anatomy is necessary and the limitations of the method must be borne in mind. The author of this book has made a real contribution to the subject particularly by his illustrations. Then again it is a worthy contribution from the deep South, beautifully bound and printed.

DISEASES OF THE GALLBLADDER AND BILE DUCTS: By Waltman Walters, B. S., M. D., M. S. in Surgery, Sc.D., F. A. C. S., Head of Section in Division of Surgery, The Mayo Clinic and Albert M. Snell, B. S., M. D., M. S. in Medicine, F. A. C. P., Head of Section in Division of Medicine, The Mayo Clinic. With 342 Illustrations on 195

(Continued on page 157)



Dr. George Madison Truluck, President-Elect,
S. C. Medical Association, Orangeburg, S. C.

DR. GEORGE MADISON TRULUCK OF ORANGEBURG PRESIDENT ELECT S. C. MEDICAL ASSOCIATION

Dr. George Madison Truluck is a native South Carolinian educated in the public schools of the State and at Clemson College from which latter institution he graduated in 1908. While at Clemson, Cadet Truluck engaged in many college activities thus early demonstrating the fine qualities of leadership so outstanding since his graduation. His interest in athletics was evident by the fact that he played football and was on the varsity track teams during his Junior and Senior years at college.

He received his medical degree from the Medical College of the State of South Carolina at Charleston in 1911 and practised medicine in Marion, South Carolina, for a number of years. During the World War he served two years in France with the First Division A. E. F. as First Lieutenant and Captain M. R. C. and was stationed also one year with Field Hospital 13, functioning as an emergency hospital. On returning to the United States after the war he specialized in eye, ear, nose and throat work taking post graduate courses in the Manhattan Hospital, Cornell University, Tulane University and Rochester University. In 1922 he located in Orangeburg to practise his specialty and was married to Miss Emmie Dantzler of that city the following year.

Dr. Truluck has been active in medical affairs having held the office of Secretary and Treasurer of the Edisto Medical Society and President of the South Carolina Society of Ophthalmology and Otolaryngology. He was elected to the Council of the South Carolina Medical Association for the Eighth District in 1930 and has served continuously until his recent elevation to the office of President Elect of the Association.

His interests have also extended to civic affairs in the community. He has been President of the Lion's Club and Chamber of Commerce and Commander of the American Legion Post. For several years he was President of the Clemson College Alumni Club of Orangeburg and Calhoun Counties and is a member of the First Presbyterian Church and has been Chairman of the Board of Deacons for a number of years.

(Continued from page 155)

Figures. W. B. Saunders Company, Philadelphia and London, 1940. Price $10.00.

All of the books coming from the Mayo Clinic are of a high order both from the literary and scientific standpoints and this book is no exception to the rule. The late world famous surgeon, W. J. Mayo, wrote the foreword and gave an extremely interesting account of the development of our knowledge of the diseases of the gall bladder and bile ducts. Perhaps no clinic in the world surpasses the Mayo Clinic in the accummulated experience of their physicians and surgeons along this line. It would appear in reading this volume that the authors have contributed just about the last word on the subjects chosen for consideration.

HANDBOOK OF ORTHOPAEDIC SURGERY: By Alfred Rives Shands, Jr., B. A., M. D., Medical Director of the Nemours Foundation, Wilmington, Delaware. In collaboration with Richard Beverly Raney, B. A., M. D., Associate in Orthopaedic Surgery, Duke University School of Medicine. Illustrated by Jack Bonacker Wilson. St. Louis, Mo., The C. V. Mosby Company, 1940. Price $4.25.

This is another splendid book from the South and South Carolina doctors have long been familiar with the excellent work done in orthopaedics at the Duke University Medical School. Dr. Shands has often visited South Carolina and delivered addresses before numerous medical societies. While the volume is a hand book it is by no means a small one for it is a book of nearly six hundred pages covering a great deal of the rapidly progressive field of orthopaedics. The illustrations are very good indeed and the text easily read. The bibliography deserves special mention. It is very extensive.

CLINICAL ROENTGENOLOGY OF THE ALIMENTARY TRACT: By Jacob Buckstein, M. D., Visiting Roentgenologist (Alimentary Tract Division), Bellevue Hospital, New York City. 652 pages with 525 original illustrations. Philadelphia and London. W. B. Saunders Company, 1940. Cloth, $10.00.

This is one of the outstanding books to come off the press in recent years. The very fact that the author has had the vast material at Bellevue Hospital, New York City and an experience of twenty years available is alone worthy of serious consideration on the part of the reader. Both the general practitioner and the specialist will find an unusual store house of information of practical value either in the hospital or in the busy private practice. The practitioner meets daily with digestive symptoms on the part of many patients. Frequently they are functional and easily cured by simple measures but every now and then a patient comes along with a different story and the out-come of the case will depend very largely on the radiologist's opinion. The illustrations in this book are numerous and cover of course a wide range of cases. The book is to be highly commended.

SOCIETY REPORTS

EDISTO MEDICAL SOCIETY

The Edisto Medical Society had its Ladies' Night at 8 P. M. Wednesday, February 21, 1940 at the Hotel Eutaw, Orangeburg, S. C., with an attendence of seventy. The Society invited the doctors and their wives from Barnwell, Allendale, and Hampton Counties and individual members invited guests from several other counties. An excellent program was enjoyed.

The program was as follows:

1. President, Dr. Eargle of Orangeburg, presiding and making a welcome address.
2. Invocation—Dr. V. W. Brabham, Orangeburg, S. C.
3. Dinner.
4. Welcome Address to Ladies—Dr. A. W. Browning, Elloree, S. C.
5. Introduction of Guests — Dr. L. P. Thackson, Orangeburg, S. C.
6. Experience of a Country Practitioner—Dr. A. L. Black, Bowman, S. C.
7. Entertainment—In form of a floor show.
8. Guest Speaker—Dr. James C. Kinard, Pres. Newberry College.

Dr. A. L. Black gave the entire gathering some very interesting information on his varied experiences.

Dr. James C. Kinard, the guest speaker, was most interesting and entertaining.

The president stated that he was very glad to have such a large attendance and asked all of the doctors to attend any of our future meetings.

W. O. WHETSELL, M. D., Sec.
Edisto Medical Society.

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*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES, Vol. 23, No. 2, pages 201-206, March, 1939.

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